# SGaan Kinghlas: Bowie Seamount At-sea Observer Coral and Sponge – Sample Collection, May 2014

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2015

Canadian Data Report of
Fisheries and Aquatic Sciences 1261

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Cat. No. Fs97-13/1261E-PDF ISBN 978-0-660-04625-9 ISSN 1488-5395

Correct citation for this publication:

Buchanan, S., M. Frey, and A. Keizer. 2015. SGaan Kinghlas - Bowie Seamount At-sea Observer Coral and Sponge Sample Collection, May 2014. Can. Data Rep. Fish. Aquat. Sci. iv + 19p.

## CONTENTS

1.0 INTRODUCTION ..... 1

2.0 METHODS ..... 1

2.1 AT-SEA OBSERVER CORAL AND SPONGE CATCH REPORTING AND SAMPLE COLLECTION ..... 2

2.2 FISHING ACTIVITY AND SAMPLE COLLECTION ..... 3

3.0 RESULTS AND DISCUSSION ..... 3

4.0 ACKNOWLEDGEMENTS ..... 4

5.0 REFERENCES ..... 4

## LIST OF TABLES

TABLE 1: SUMMARY OF CORAL AND SPONGE CATCH ..... 5
TABLE 2: CORAL AND SPONGE SAMPLES ..... 5

## LIST OF FIGURES

FIGURE 1: PARASTENELLA RAMOSA ..... 6
FIGURE 2: HETEROPOLYPUS RITTERI ..... 7
FIGURE 3: PARAGORGIA ARBOREA ..... 8
FIGURE 4: KERATOISIS SP. ..... 9
FIGURE 5: PARAGORGIA YUTLINUX ..... 10
FIGURE 6: PRIMNOA PACIFICA ..... 11
FIGURE 7: AMPHIMEDON SP. ..... 12
FIGURE 8: FARREA ASPONDYLA ..... 13
FIGURE 9: DOCONESTHES DUSTINCHIVERSI ..... 14
FIGURE 10: HEXACTINELLIDA ..... 15

## APPENDICES

APPENDIX I: INTERIM SGAAN KINGHLAS: BOWIE SEAMOUNT OBSERVER CORAL AND SPONGE DATA COLLECTION REQUIREMENTS

## ABSTRACT

Buchanan, S., M. Frey, and A. Keizer. 2015. SGaan Kinghlas - Bowie Seamount At-sea Observer Coral and Sponge Sample Collection, May 2014. Can. Data Rep. Fish. Aquat. Sci. iv + 19p.

In 2014, new management measures for the Sablefish fishery within the SGaan Kinghlas-Bowie Seamount Marine Protected Area (SK-B MPA) required an at-sea observer for fishing activities during a May fishing trip. This document summarizes the results of at-sea observer sample and data collection activities on board the F/V *Pacific Viking* between May 1 and May 27, 2014. This document details the results of the collection of coral and sponge bycatch in accordance with the Interim SGaan Kinghlas-Bowie Seamount Observer Coral and Sponge Data Collection Requirements. The at-sea observer reported sponges were caught on four occasions; corals were caught 13 times during the 70 fishing events. The catches were comprised of four unique species of sponge and six unique species of coral that are detailed in this report.

## RÉSUMÉ

Buchanan, S.B, Frey M. et Keizer A. 2014. Prélèvement d'échantillons de coraux et d'éponges par le programme des observateurs en mer au mont sous-marin Bowie (SGaan Kinghlas). mai 2014. Rapp. stat. can. sci. halieut. aquat. iv + 19p.

En 2014, de nouvelles mesures de gestion relatives à la pêche à la morue charbonnière dans la zone de protection marine du mont sous-marin Bowie (ZPM du SGaan Kinghlas) exigeaient qu'un programme d'observateur en mer soit mis sur pied pour surveiller les activités de pêche ayant lieu durant un voyage particulier au mois de mai. Le présent document résume les résultats des prélèvements d'échantillons et de données qui ont été effectués dans le cadre du programme d'observateur en mer sur le navire de pêche Pacific Vikiing, du 1er au 27 mai 2014. Le présent document offre des détails sur les résultats du prélèvement de prises accessoires de coraux et d'éponges, conformément aux exigences provisoires relatives au prélèvement de données sur les coraux et les éponges dans le cadre du programme d'observateur au mont Bowie (SGaan Kinghlas). Le programme d'observateur en mer a déterminé qu'au cours des 70 sorties de pêche, des éponges ont été capturées à quatre (4) reprises et des coraux à treize (13) reprises. Quatre espèces particulières d'éponges et six espèces particulières de coraux ont été capturées; ces espèces sont décrites en détail dans le présent rapport.

## 1.0 INTRODUCTION

In 2014 new management measures for the Sablefish fishery within the SGaan Kinghlas-Bowie Seamount Marine Protected Area (SK-B MPA) were introduced. Fishery management measures include the requirement to carry an at-sea observer during sablefish (Anoplopoma fimbria) fishing activities to collect catch information, biological samples, and to facilitate the deployment of deepwater cameras and accelerometers. In addition to collecting biological information about sablefish, new management measures required the collection of coral and sponge bycatch.

Sablefish fishing in the "Northern Seamount Fishery Area", including SK-B MPA, was conducted between May 1, 2014 and May 27, 2014 by the fishing vessel (F/V) *Pacific Viking*. Fishing was permitted during May 2014 under the authority of amended conditions of 2014/2015 Sablefish licence, issued by Fisheries and Oceans Canada (DFO). A licence issued under the authority of section 52 of the Fishery (General) Regulations permitted the retention of coral and sponge samples. At-sea observer sample and data collection requirements were completed by a DFO-certified groundfish observer employed by Archipelago Marine Research Ltd. (Archipelago). At-sea observer services were funded by Wild Canadian Sablefish Ltd. (WCS).

## 2.0 METHODS

During the F/V *Pacific Viking*'s May trip to the Northern Seamount Fishery Area the at-sea observer was tasked with collecting catch data and bridge log data, and was responsible for coordinating the deployment and retrieval of the deepwater cameras, accelerometers, and temperature/depth recorders. The at-sea observer collected catch information, including the weight and number of pieces of each species encountered, and whether the catch was retained or released at-sea. The at-sea observer collected detailed bridge log data using the vessel's navigational instruments for each fishing event. Bridge log data included fishing location information, fishing time, bait used, and a description of the fishing gear deployed. The deployment and retrieval of the deepwater cameras, accelerometers, and temperature/depth recorders, was done in accordance with DFO guidelines. Detailed bridge log and catch information for each fishing event were submitted to DFO's Fishery Operations System (FOS). Data are available in FOS under trip identification number 246703.

Biological data was collected by the at-sea observer throughout the trip according to a sampling protocol and schedule established for the Northern Seamount Fishery Area by DFO. Samples collected by the at-sea observer included length/sex/maturity/age (LSMA) data, and DNA tissue samples from sablefish, Rougheye rockfish (*Sebastes aleutianus*), and Blackspotted rockfish (*Sebastes melanostictus*).The sampling protocol also required same sablefish to be measured, tagged and released to sea. Previously tagged sablefish encountered in the catch were sampled for length/sex/maturity/age data, and the tag number was recorded.

## 2.1 AT-SEA OBSERVER CORAL AND SPONGE CATCH REPORTING AND SAMPLE COLLECTION

The at-sea observer deployed during the May fishing activity in the Northern Seamount Fishery Area collected coral and sponge bycatch in accordance with the Interim SGaan Kinghlas-Bowie Seamount Observer Coral and Sponge Data Collection Requirements ("Data Collection Requirements"). A copy of the protocol is contained in Appendix I.

For the purpose of documenting sponge and coral encountered during fishing activity on SGaan Kinghlas – Bowie Seamount sponge and coral were defined as:

- Phylum Porifera (Sponges): inclusive of organisms belonging to Class Calcarea (Calcareous sponges); Class Hexactinellida (Glass sponges); or Class Demospongiae (Bath sponges).
- Phylum Cnidaria (Corals): inclusive of organisms belonging to Order Antipatharia (Black corals); Order Scleractinia (Cup corals); Order Pennatulacea (Sea pens and whips); Suborder Alcyoniina (Soft corals); Suborder Scleraxonia (Bone-like corals) including Family Paragorgiidae (Bubblegum corals) and Family Plexauridae (Horny tree corals); Family Stylasteridae (Hydrocorals); Family Isididae (Bamboo corals); or Family Primnoidae (Red-tree corals).

The at-sea observer reported all catches of coral and sponge to the lowest possible taxonomic level that was practical based on the tools, identification support materials, and time available. Each coral and sponge catch record was reported by pieces and weight (wet weight to the nearest 1 pound), with catches less than 0.5 pounds reported as a trace quantity. Coral and sponge samples were completed where possible, without interfering with other duties required for the collection of catch and effort data, groundfish biological samples, and the deployment and retrieval of trap cameras and accelerometers.

As defined by the Data Collection Requirements, the at-sea observer collected samples of each unique coral and sponge species encountered to allow for subsequent species identification or verification. Specimens were individually frozen in a re-sealable zipper storage bag, with a pre-completed waterproof label containing trip identification information. Each sample collected was inventoried on the Coral and Sponge Sample Summary worksheet. If the sample was small (<20-30 cm), the entire organism/colony was retained. For larger specimens, a 20-30 cm section of the organism/colony was retained. Attention was paid to retain a section of the specimen that includes those features that are important to its identification. When a coral or sponge was encountered in smaller fragments, a sample of the fragments was collected together, provided that the fragments were large enough to allow for its subsequent identification. The at-sea observer also collected photographs and samples of corals and sponges encountered according to the Data Collection Requirements. Sample and photo collection was completed once for each unique species encountered during the trip. Where possible, photographs included a ruler for measurement purposes and a label referencing the photograph to the catch record and fishing event. Photographs included a picture of the entire organism or colony, as well as close up photos of the key identification features. Each series of photographs collected for each species of coral or sponge was inventoried on a Coral and Sponge Sample Summary worksheet.

All coral and sponge samples and photographs were submitted to Archipelago, along with the at-sea observer trip report and data package. Particular care was taken to ensure that frozen samples remain frozen during delivery. Coral and sponge samples were examined by

Archipelago management staff and then staff from the Royal British Columbia Museum (RBCM), and University of Victoria. At the RBCM, all specimens of corals and sponge were further examined using a dissecting and a compound microscope. The specimens were identified on the basis of diagnostic characters, unique to each species as defined in the primary literature. Further descriptions and references are contained in Figures 1-10. All samples were then preserved in 70% ethanol and incorporated into the invertebrate collection at the RBCM for future reference.

## 2.2 FISHING ACTIVITY AND SAMPLE COLLECTION

The F/V *Pacific Viking* completed 70 fishing events in the Northern Seamount Fishery Area between May 1, 2014 and May 27, 2014. Fishing activities conducted by the vessel targeted sablefish. Deepwater cameras, accelerometers and temperature/depth recorders were deployed by the at-sea observer and vessel crew on 61 of 70 fishing events. The at-sea observer collected LSMA data from 86 individual sablefish, and tissue samples for DNA from 45 individual sablefish. The at-sea observer also collected LSMA from 344 individuals of Rougheye rockfish/Blackspotted rockfish, DNA tissue samples from 200 individuals. Sablefish were tagged and had lengths recorded during the trip while additional tagged sablefish were captured and sampled on board. All biological data were provided to DFO science staff for inclusion in the Pacific region groundfish science data system (GFBio).

The at-sea observer reported sponges were caught on four occasions; corals were caught 13 times during the 70 fishing events. The catches were comprised of four unique species of sponge and six unique species of coral. All coral and sponge catch records are summarized in Table 1. Coral and sponge samples that were provided to the RBCM for further identification are summarized in Table 2. The at-sea observer photographed each sample (Figures 1-10).

# 3.0 RESULTS AND DISCUSSION

This coral and sponge collection and identification process is the first formal process to identify corals and sponges caught in the Zone 2 of the SK-B-MPA as part of modern commercial seamount fisheries. Previous coral and sponge sample collection activities were performed in an opportunistic fashion during at-sea observer assignments. The at-sea observer on the May 2014 trip successfully completed the Interim SGaan Kinghlas-Bowie Seamount Observer Coral and Sponge Data Collection Requirements. The photographs and samples collected were sufficient to allow staff at Archipelago and the RBCM to confirm the identification of each specimen. Freezing samples allowed for subsequent identification and preservation of the collected specimens. For the purpose of guiding effective sample and data collection, the Interim SGaan Kinghlas-Bowie Seamount Observer Coral and Sponge Data Collection Requirements do not require procedural changes. As management measures evolve in response to fishery and conservation objectives, the Data Collection Requirements should be reviewed to ensure that the procedures continue to collect the information required for management.

## 4.0 ACKNOWLEDGEMENTS

Wild Canadian Sablefish Ltd. is recognized for organizing and funding the sample collection activities and the ongoing science activities at SGaan Kinghlas-Bowie Seamount. The skipper and the crew of the F/V *Pacific Viking* are recognized for their assistance with the science activities and sample collection work completed by the at-sea observer during the May 2014 North sablefish seamount trip. Fisheries and Oceans Canada funded the sample processing and reporting activities associated with this project. The Royal BC museum dedicated the staff time and resources required to preserve and identify each sample collected for this work.

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**TABLE 1:** Summary of coral and sponge catch from May 2014 Sablefish fishing activity at SGaan Kinghlas-Bowie Seamount. Samples were retained under the authority of section 52 of the Fishery (General) Regulations by the at-sea observer onboard the fishing vessel *Pacific Viking*.

Table 1: Summary of coral and sponge catch

| Fishing Event Number | Haul Date | Common Name | Latin Name | Catch Weight (kg) | Frozen Sample Retained |
|---|---|---|---|---|---|
| 8 | May 4, 2014 | Sea Fan | *Parastenella ramosa* | Trace | Yes |
| 12 | May 6, 2014 | Mushroom Coral | *Heteropolypus ritteri* | Trace | Yes |
| 13 | May 6, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 13 | May 6, 2014 | Demospongiae | *Amphimedon sp.* | Trace | Yes |
| 13 | May 6, 2014 | Glass Sponge | *Farrea aspondyla* | Trace | Yes |
| 15 | May 6, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 18 | May 8, 2014 | Bubblegum Coral | *Paragorgia arborea* | Trace | Yes |
| 18 | May 8, 2014 | Glass Sponge | *Doconesthes n. sp.* | Trace | Yes |
| 23 | May 10, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 26 | May 10, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 35 | May 14, 2014 | Bamboo Coral | *Keratoisis sp.* | Trace | No |
| 35 | May 14, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 42 | May 18, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 53 | May 22, 2014 | Sea Fan | *Paragorgia yutlinux* | Trace | Yes |
| 58 | May 24, 2014 | Sea Fan | *Parastenella ramosa* | Trace | No |
| 58 | May 24, 2014 | Glass Sponge | Hexactinellida | Trace | Yes |
| 61 | May 26, 2014 | Red tree coral | *Primnoa pacifica* | 6.8 | Yes |

**TABLE 2:** Coral and sponge samples from May 2014 Sablefish fishing activity provided to the Royal British Columbia Museum for identification. Samples were collected by the at-sea observer onboard the fishing vessel *Pacific Viking* during fishing activities at SGaan Kinghlas-Bowie Seamount.

Table 2: Coral and sponge samples

| Fishing Event Number | Haul Date | Common Name | Latin Name | RBCM Catalogue Number | Report Figure |
|---|---|---|---|---|---|
| 8 | May 4, 2014 | Sea Fan | *Parastenella ramosa* | 014-00409-001 | Fig. 1 |
| 12 | May 6, 2014 | Mushroom Coral | *Heteropolypus ritteri* | 014-00410-001 | Fig. 2 |
| 13 | May 6, 2014 | Demospongiae | *Amphimedon sp.* | 014-00411-001 | Fig. 7 |
| 13 | May 6, 2014 | Glass Sponge | *Farrea aspondyla* | 014-00411-002 | Fig. 8 |
| 18 | May 8, 2014 | Bubblegum Coral | *Paragorgia arborea* | 014-00412-002 | Fig. 3 |
| 18 | May 8, 2014 | Glass Sponge | *Doconesthes n. sp.* | 014-00412-001 | Fig. 9 |
| 35 | May 14, 2014 | Bamboo Coral | *Keratoisis sp.* | 014-00413-001 | Fig. 4 |
| 53 | May 22, 2014 | Sea Fan | *Paragorgia yutlinux* | 014-00414-001 | Fig. 5 |
| 58 | May 24, 2014 | Glass Sponge | Hexactinellida | 014-00415-001 | Fig. 10 |
| 61 | May 26, 2014 | Red tree coral | *Primnoa pacifica* | 014-00416-001 | Fig. 6 |

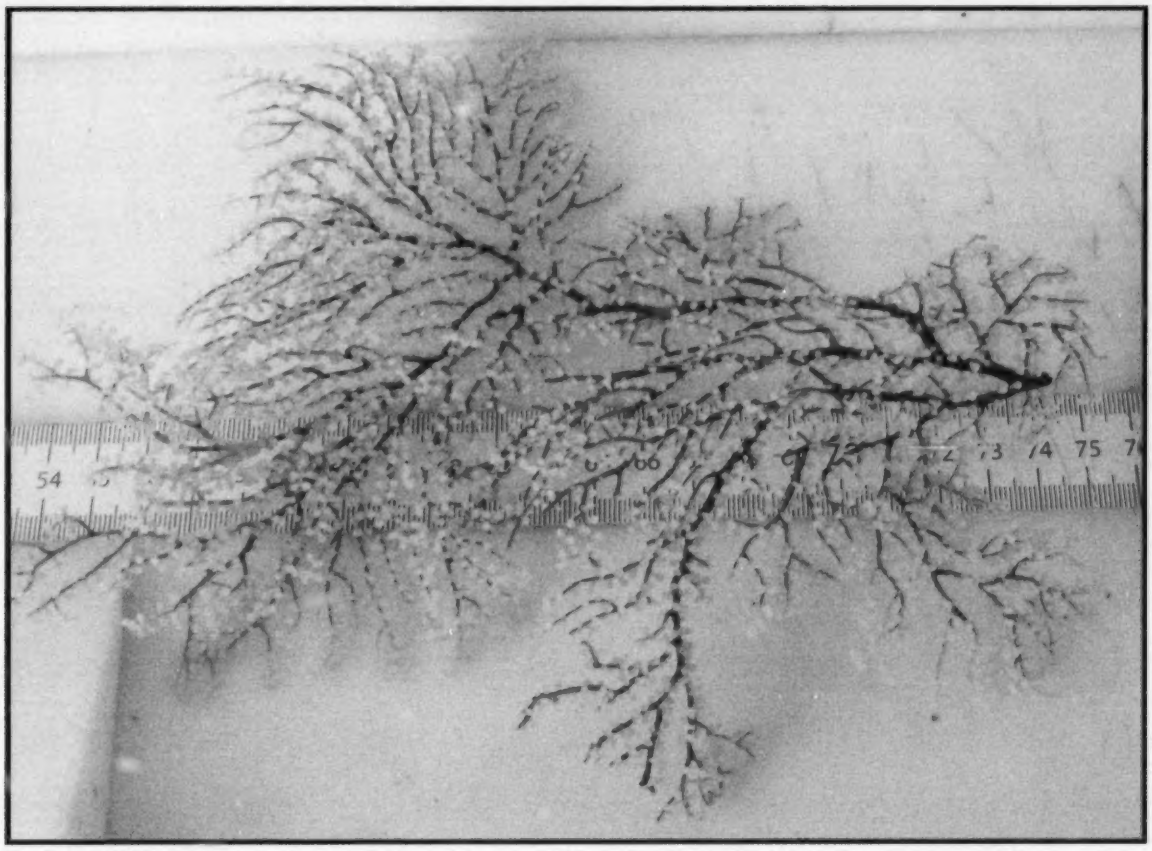

Figure 1: *Parastenella ramosa*

**Name:** *Parastenella ramosa* (Cairns, 2007).

**Description:** Bushy colony dichotomously branched; polyps (<3mm) arranged in pairs or whorls around stem; calyces in singles, pairs and whorls of 3, generally oriented perpendicular to branch or downwards; marginal scales (8) of polyps do not fold over bases of opercular scales, elongated and often fluted; opercular scales alternate with marginal scales, roughly equal in size with highly keeled inner surface. (Photo: Archipelago Marine Research Ltd.)

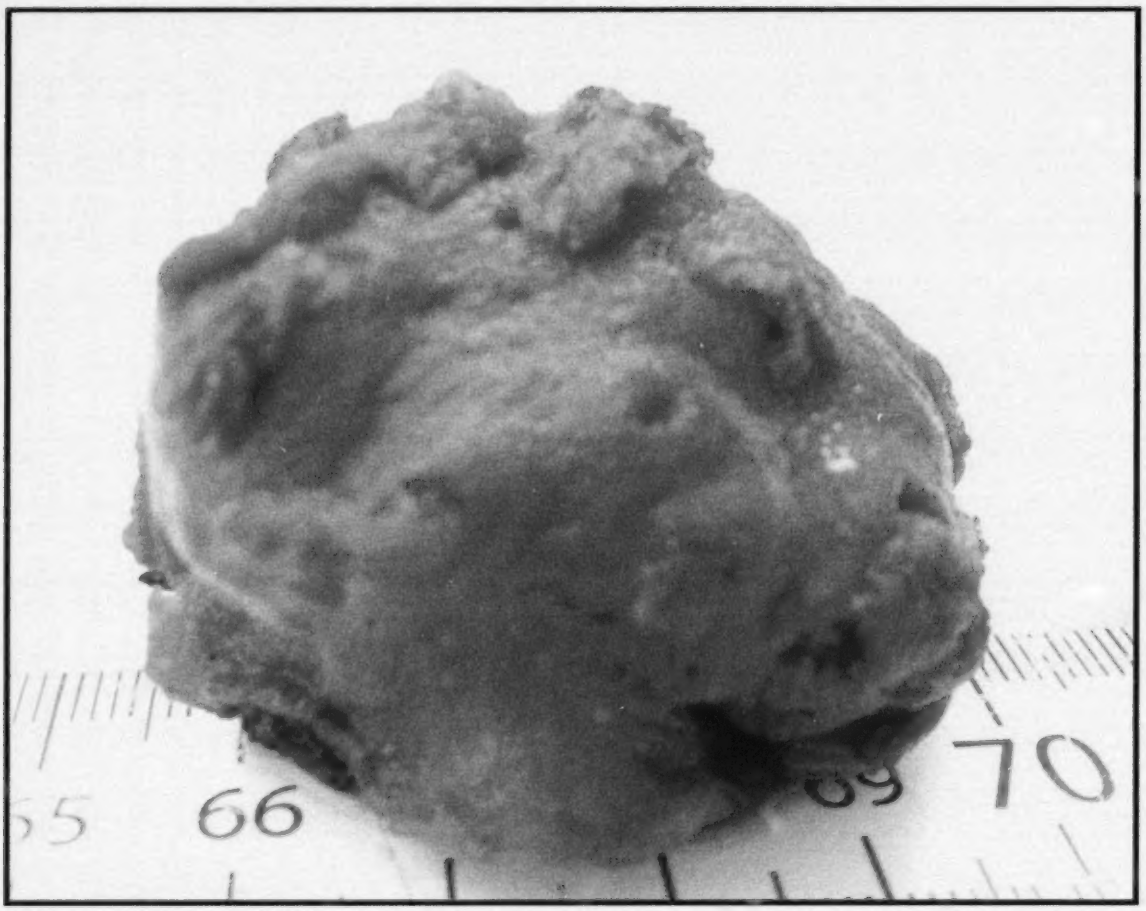


Figure 2: *Heteropolypus ritteri*

**Name:** *Heteropolypus ritteri* (Syn. *Anthomastus ritteri*) (Molodtsova, 2013).

**Description:** Small mushroom shaped (hemispherical cap) colony delimited from sterile short peduncle; colony with a thick and broad stalk (rachis) and broad cap; cap with retractable polyps embedded in the cap; cap is red, pink, yellow or tan in colour; fleshy coenenchyme; numerous siphonozooids; sclerites as capstans, double stars and thorny spindles; cap length to 80mm, width to 60mm and depth to 30mm; surface appears granular; autozooids large, scattered irregularly over entire rachis; tentacles long (length to 10mm). (Photo: Archipelago Marine Research Ltd.)

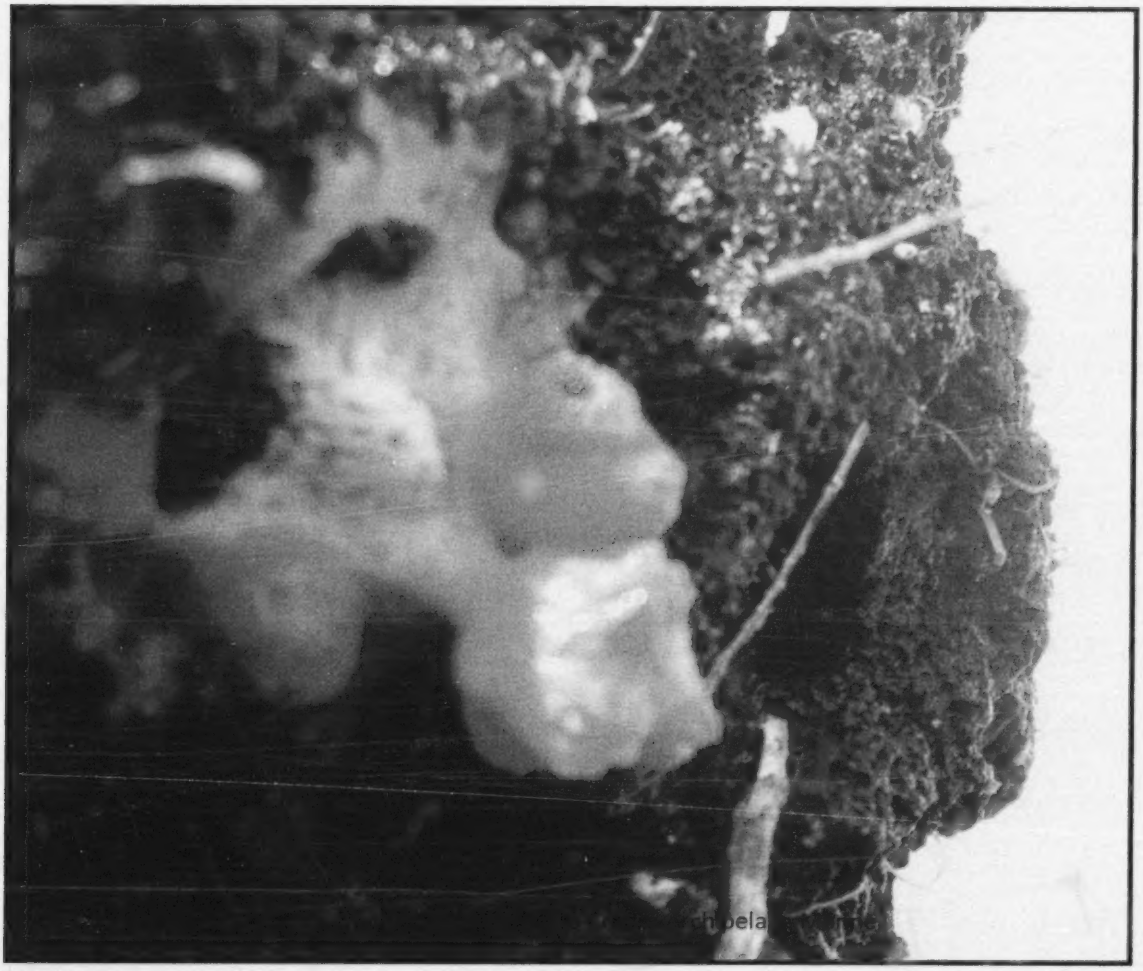

Figure 3: *Paragorgia arborea*

**Name:** *Paragorgia arborea (pacifica)* (Sanchez, 2005).

**Description:** Colony erect and branching in several planes; medulla perforated by 3 or more large canals in terminal branches; autozooids tentacles with sclerites; polyps small, rosette-shaped, well spaced, evertible; branches massive, brick red, orange, yellow or cream-coloured; skeleton soft and easily broken; terminal branch width >5mm; coenenchyme colour pink. (Photo: Archipelago Marine Research Ltd.)

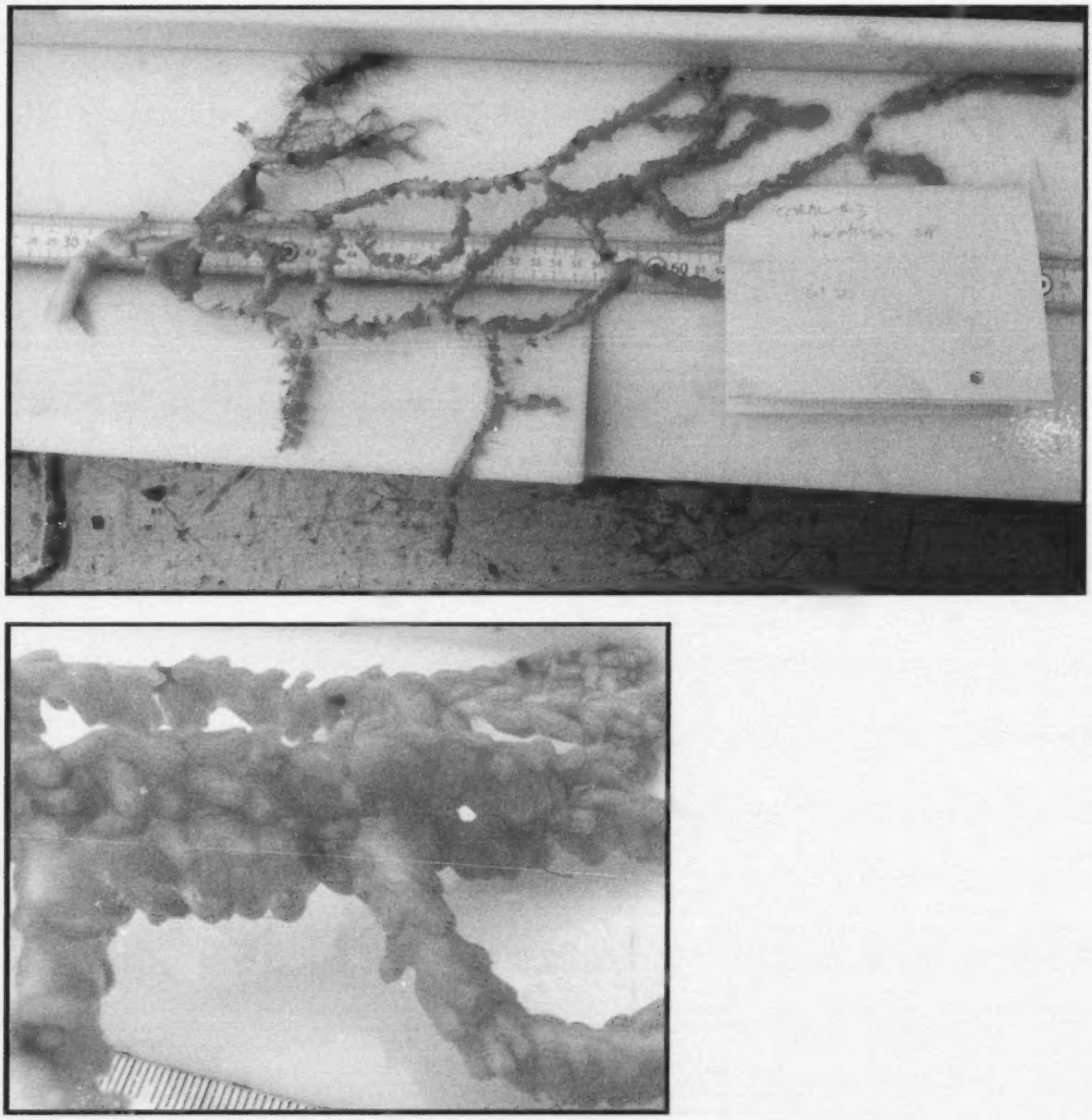

Figure 4: *Keratoisis sp.*

**Name:** *Keratoisis sp.* (Wing & Barnard, 2004).

**Description:** Skeleton segmented, alternating non-spicular calcareous internodes (white) and horny nodes (black); skeleton branches from calcareous internodes; polyps non-retractile and form permanently protruding, often prominent, columnar or conical verracae; sclerites include radiates, clubs, tuberculate spindles, needles or rods; polyps red to bright orange. (Photo: Archipelago Marine Research Ltd.)

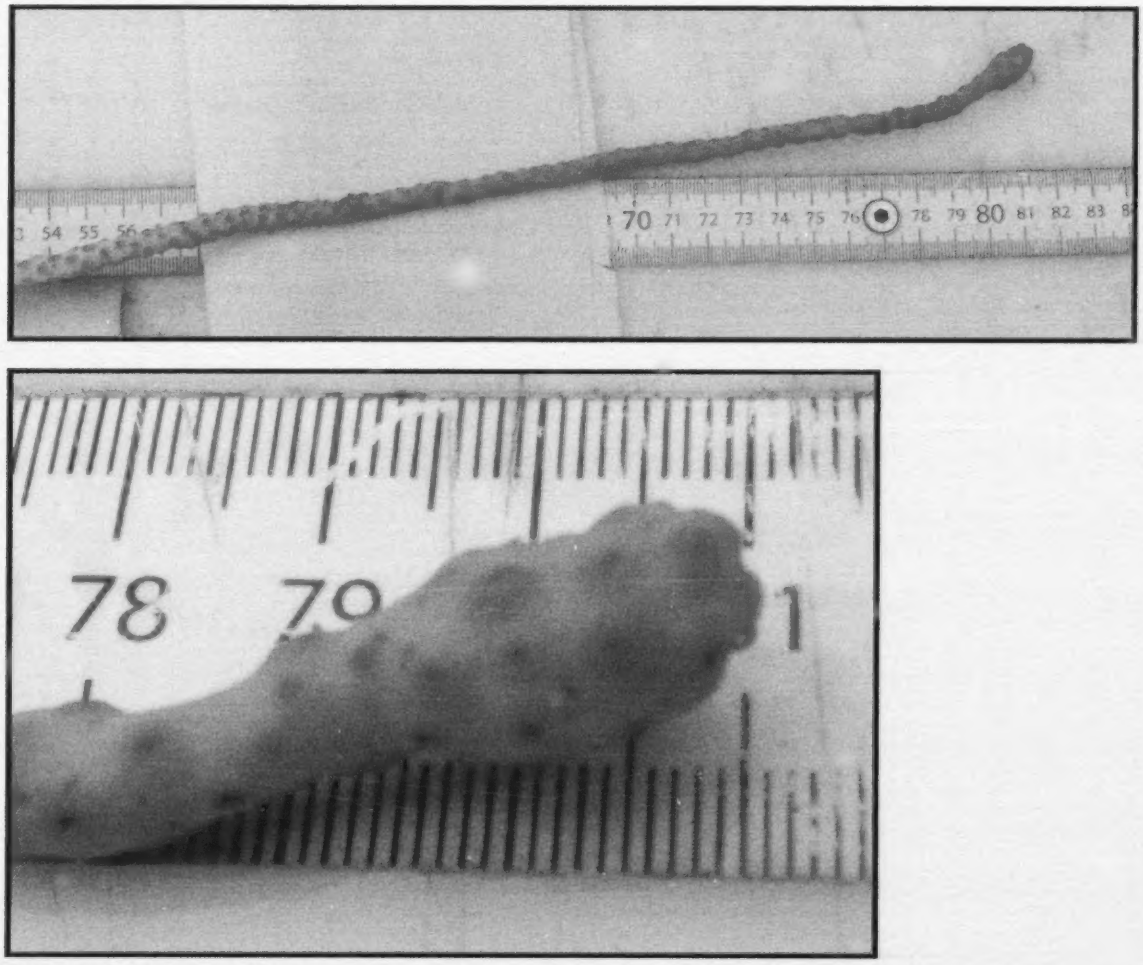


Figure 5: *Paragorgia yutlinux*

**Name:** *Paragorgia yutlinux* (Sanchez, 2005).

**Description:** Colony erect and branching in several planes; terminal branch width <4mm; coenenchyme colourless and dark (purple) autozooid apertures; surface sclerites symmetrical (all rays equal) mostly with 6-radiates. (Photo: Archipelago Marine Research Ltd.)

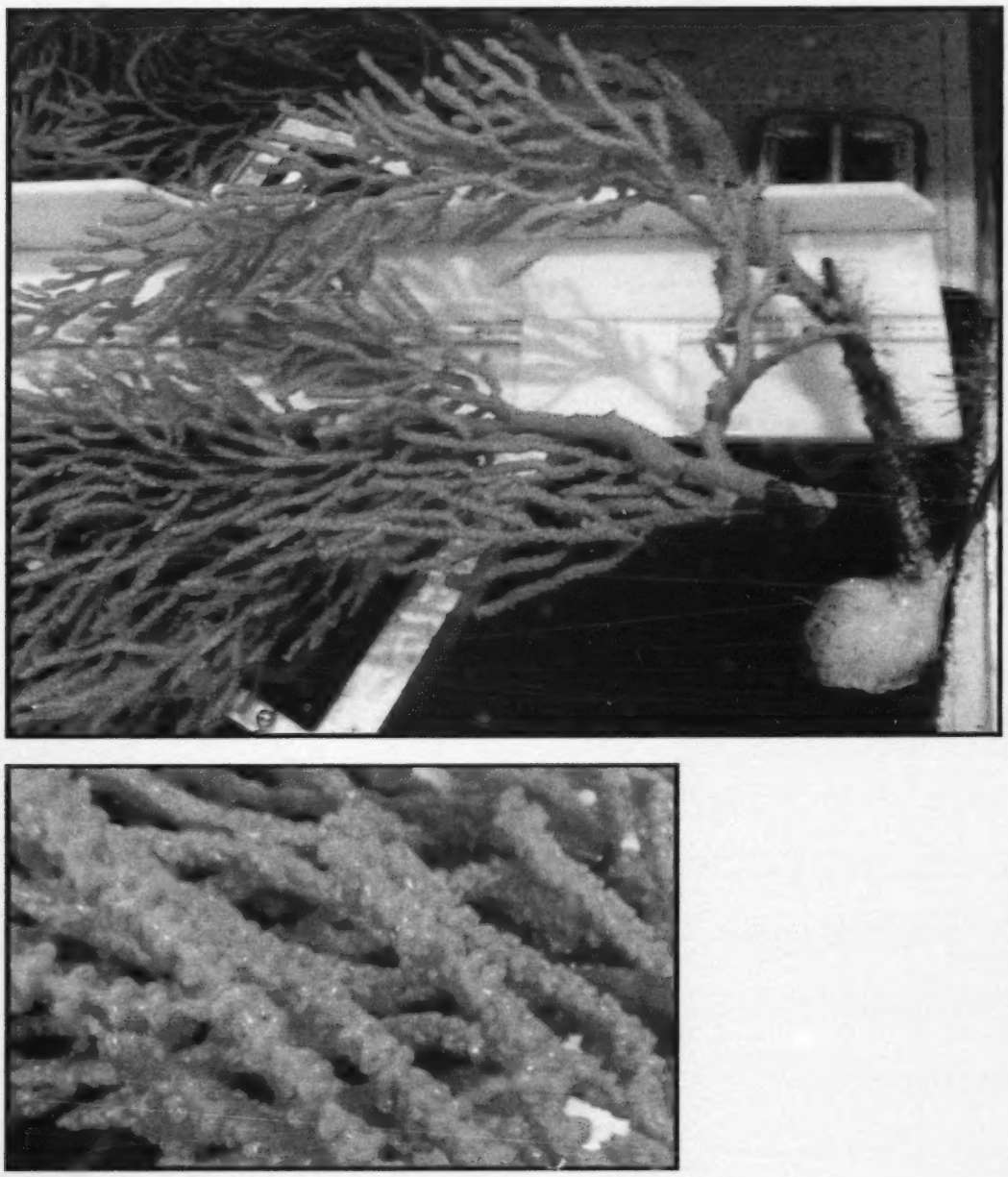

Figure 6: *Primnoa pacifica*

**Name:** *Primnoa pacifica* (Cairns & Bayer, 2005).

**Description:** Large tree-like colony dichotomously branched; skeleton may be calcified at the base; live polyps are orange to red; polyps large (>3mm) and face downward; polyps crowded around stem and branches; basal scales of most polyps larger than medial scales and usually with prominent marginal spine. (Photo: Archipelago Marine Research Ltd.)

Figure 7: *Amphimedon sp.*

**Name:** *Amphimedon sp.* (Desqueyroux-Faundez & Valentine, in Hooper & Van Soest, 2002)

**Description:** Demosponge without microscleres. Spongin present enclosing ectosomal and choanosomal spicule tracts. Surface of sponge more or less smooth but may be uneven or bumpy. Ectosomal network tangential. (Photo: Archipelago Marine Research Ltd.)

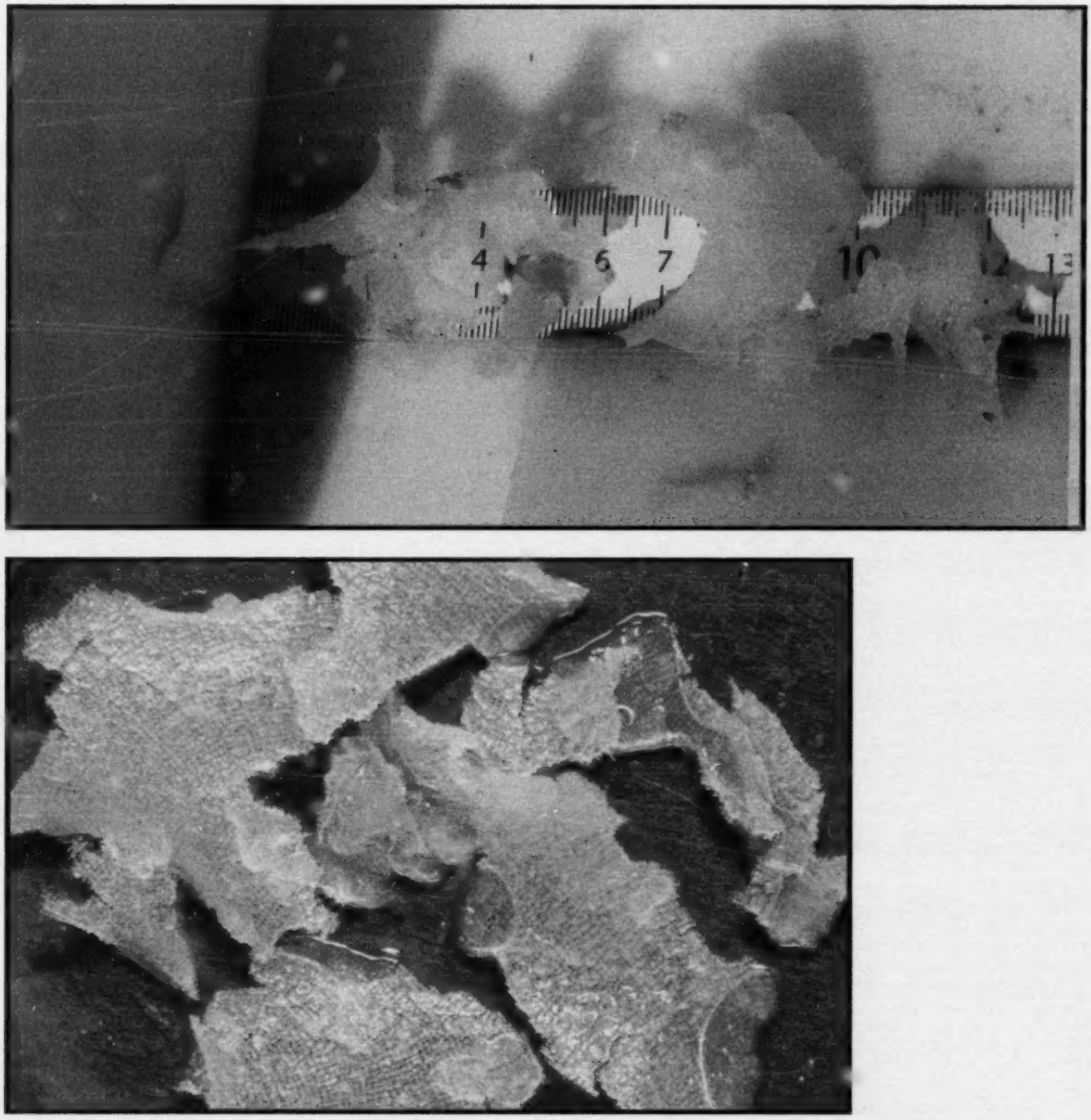

Figure 8: *Farrea aspondyla*

**Name:** *Farrea aspondyla* (Reiswig & Stone, 2013).

**Description:** Hexactinellid with a very thin skeleton forming a lace-like mass. Consistency of skeleton is flexible but brittle. (Photo: Archipelago Marine Research Ltd., M. Frey, Royal BC Museum)

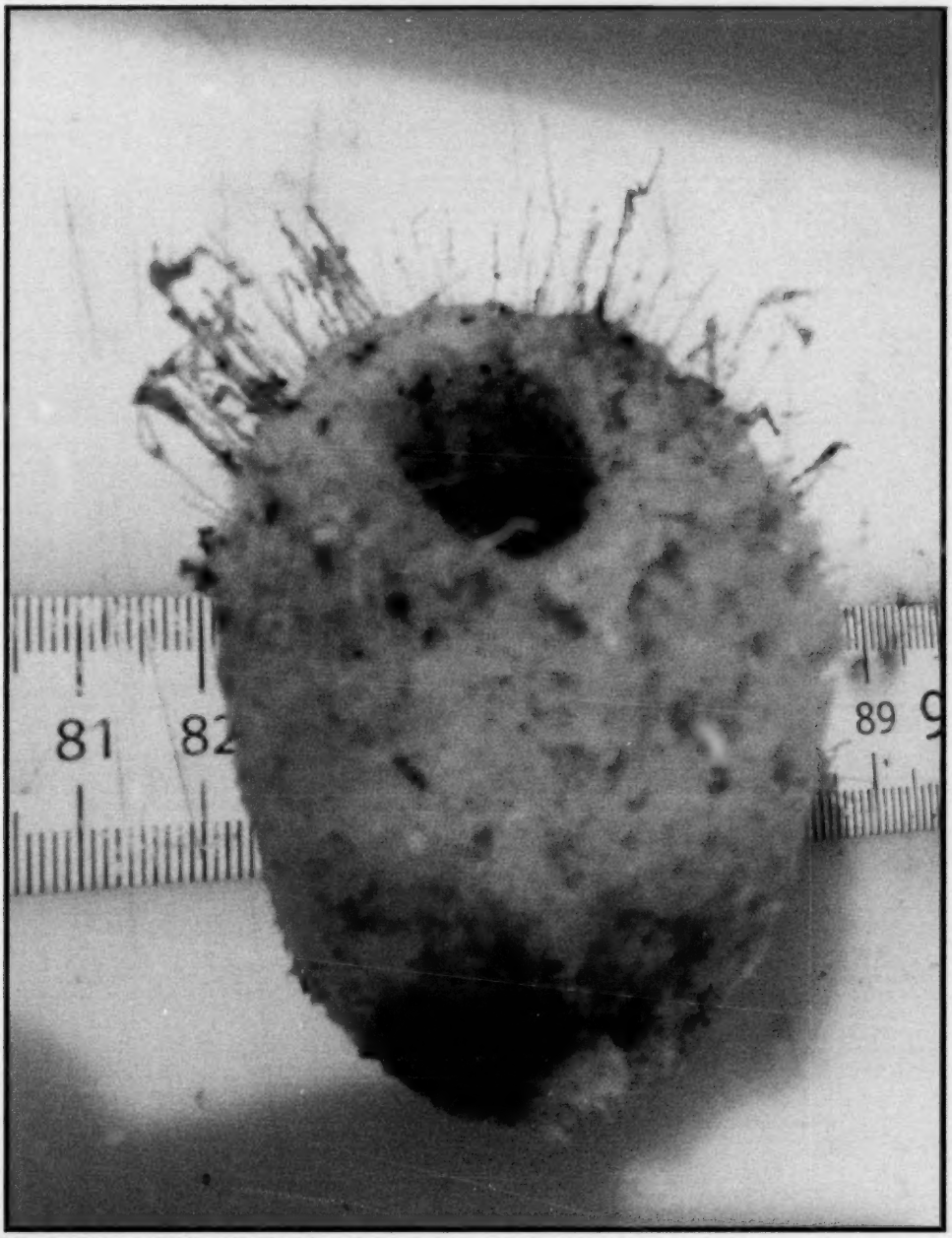


Figure 9: *Doconesthes dustinchiversi*

**Name:** *Doconesthes dustinchiversi* (Reiswig, 2015).

**Description:** Body is a slightly flattened sac with a thick body wall. The sponge is very firm and almost uncompressible. The dermal surface with an irregular transparent thin lattice. The atrial surface has a regular transparent lattice. Body colour is light tan with a pink tinge. (Photo: Archipelago Marine Research Ltd.)

Figure 10: Hexactinellida

**Name:** Hexactinellida

**Description:** Possessed hard, rigid framework characteristic of Class Hexactinellida, but diagnostic spicules lacking, so unidentifiable to a lower taxonomic level. (Photo: M. Frey, Royal BC Museum)

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## APPENDIX I: INTERIM SGAAN KINGHLAS: BOWIE SEAMOUNT OBSERVER CORAL AND SPONGE DATA COLLECTION REQUIREMENTS

### SGAAN KINGHLAS - BOWIE SEAMOUNT MARINE PROTECTED AREA

In 2014, new interim management measures for the Sablefish fishery within the SGaan Kinghlas-Bowie Seamount Marine Protected Area (SK-B MPA) have been introduced. The interim management measures for the "North" management area include:

> At-sea observer coverage, biosample collection procedures, and deepwater cameras and accelerometers deployment, normally required during April and September openings, are now required during May and June (or in July and/or August as necessary).
>
> Exploratory habitat work will continue with the development and implementation of a coral and sponge encounter protocol to document corals and sponges in the Zone 2 of the MPA.

***At-Sea Observer Coral and Sponge Catch Reporting Requirements***

For the purpose of documenting sponge and coral encountered during fishing activity on SGaan Kinghlas – Bowie Seamount sponge and coral is described as the following:

> Phylum Porifera (Sponges): inclusive of organisms belonging to Class Calcarea (Calcareous sponges); Class Hexactinellida (Glass sponges); or Class Demospongiae (Bath sponges).
>
> Phylum Cnidaria (Corals): inclusive of organisms belonging to Order Antipatharia (Black corals); Order Scleractinia (Cup corals); Order Pennatulacea (Sea pens and whips); Suborder Alcyoniina (Soft corals); Suborder Scleraxonia (Bone-like corals) including Family Paragorgiidae (Bubblegum corals) and Family Plexauridae (Horny tree corals); Family Stylasteridae (Hydrocorals); Family Isididae (Bamboo corals); or Family Primnoidae (Red-tree corals).

Please consult Appendix I (Invertebrates of British Columbia) of the Archipelago Groundfish Fisheries Observer Resource Manual for detailed descriptions and illustrations of corals and sponges encountered by observers working on fisheries in the Pacific region of Canada.

At-sea observers that perform trips on sablefish trap vessels fishing SGaan Kinghlas – Bowie Seamount are required to continue to report all coral and sponge catch to the lowest possible taxonomic level that is practical based on the tools, identification support materials and time available to the observer. Where identification requires close examination of features such as spicules or sclerites using a microscope, corals and sponges will be reported to a higher taxonomic level (i.e. Class or Order). Coral and sponge catch records will be reported by weight (wet weight to the nearest 1 lb), number of pieces, utilization and sample method for all observed fishing events. Every attempt should be made to verify the weight of each coral or sponge catch when the quantity exceeds a trace (<0.5 lbs) amount.

Catch will be reported to the lowest possible taxon. Where the identification of a group of organisms is only possible to a higher taxon (i.e. Glass sponge) and more than one species is encountered in a fishing event or trip, the number of unique unidentified species should be tracked for each trip (i.e. Glass sponge #1, Glass sponge #2, etc.). This will produce multiple

records for the same taxon and species code for a fishing event. This inventory system for unidentified species reported to higher taxa should be documented in the at sea observer notebook and annotations made in the comments section of the hook and line catch estimation form (Card ZN1). In addition, this documentation for sponges and corals not identified to the species level will be used to link the catch records to any photographs and specimens retained during the trip.

***At-Sea Observer Coral and Sponge Sample Collection Requirements***

At-sea observers that perform trips on sablefish trap vessels fishing SGaan Kinghlas – Bowie Seamount are required to collect photographs and samples of corals and sponges encountered during fishing events in order to assist with their documentation and identification for this area. The following coral and sponge sampling protocol should be completed where possible without interfering with other duties already required for the collection of catch and effort data, groundfish biological samples and the deployment and retrieval of trap cameras and accelerometers. Sample and photo collection should only be completed once for each unique species encountered during a trip. For situations where a better specimen is encountered after a sample has already been collected during the trip, re-sampling the better specimen is preferred if time permits. The process for coral and sponge sample selection and completion is outlined below:

For each unique species of coral or sponge encountered during a trip take a series of digital photographs. Photographs should include a ruler for measurement purposes and where possible a label complete with at sea file number, set number and species name (unidentified #1, #2 etc for catch that is reported to a higher taxon). Photographs should include a picture of the entire organism or colony. For corals, additional close up photos of the key identification features including branching pattern as well as any polyps or polyp leaves or pinnules or cyclostems or calyces. Close up photos that are desired for identifying sponges include ones focused on the surface, the base, any visible spicules and any oscules (openings) or papillae (projections). Example photos can be found in Appendix I (Invertebrates of British Columbia) of the Archipelago Groundfish Fisheries Observer Resource Manual. Each series of photographs collected for each species of coral or sponge will be inventoried on the coral and sponge sample summary worksheet.

For each unique species of coral or sponge encountered at sea observers are asked to collect a frozen sample that can be used for subsequent species identification / verification. Specimens should be individually frozen in a Ziploc bag that also contains a completed waterproof museum sample label for each sample. Each sample will also be inventoried on the coral and sponge summary worksheet. The following guideline should be used to determine what to retain for each colony or organism:

When the entire organism or colony is small in size (<20 to 30 cm) retain the entire organism or colony.

When the specimen is large (>30 cm) retain a 20 to 30 cm section of the organism or colony. Pay particular attention to retain a section of the specimen that includes those features that are key to its identification as outlined in point 1 above. When only a section is retained; measure the weight (lbs), length (cm), width (cm) and height (cm) of the entire colony or organism and record this information on the back of the museum label.

Where an organism is encountered in smaller fragments, collect a sample of fragments together for the sample where time permits and only if they are of sufficient size to allow for its identification.

***At-Sea Observer Coral and Sponge Sample Delivery Requirements***

Coral and sponge samples and photographs collected during at sea observer deployments to SGaan Kinghlas - Bowie Seamount will be submitted to Archipelago with the observer trip report and data package at the conclusion of each trip. Particular care will be required to ensure that frozen samples remain frozen during delivery from the vessel to frozen storage at one of the regional Archipelago offices.